

What is claimed is:

1. A method for energizing an electric energy storage device to a high electric potential with electric energy supplied by an electric power source, comprising the steps of:
 - (a) isolating in electrical terms said de-energized electric energy storage device from said electric power source, and
 - (b) energizing a capacitive device with a predetermined value of capacitance with electric energy supplied by said electric power source until said capacitor is energized to a voltage equal to the voltage of the electric power source to stop electric current from flowing, and
 - (c) isolating energized said capacitive device from said electric power source, and
 - (d) allowing energized said capacitive device to de-energize through, and supply electric energy to, said electric energy storage device, thus describing an energizing cycle, and
 - (e) repeating said energizing cycle until said electric energy storage device is fully energized with electric energy supplied by said electric power source which is temporarily stored during each said energizing cycle by said capacitive device, whereby electric energy is supplied safely, effectively, and efficiently by said electric power source to energize said electric energy storage device with said capacitive device acting during each said energizing cycle to prevent excessive electric current from flowing at any time.
2. A method for de-energizing an electric energy storage device from a high electric potential, comprising the steps of:
 - (a) partially de-energizing said electric energy storage device to a capacitive device with a predetermined value of capacitance through said electrical load device with electric energy supplied by said electric energy storage device until said capacitive device is energized to a voltage equal to the voltage of the said electric energy storage device to stop electric current from flowing, and
 - (b) isolating energized said capacitive device from said electric energy storage device, and
 - (c) completely de-energizing said capacitive device in the opposite direction in electrical terms through said electrical load device, thus describing a de-energizing

cycle, and

- (d) repeating said de-energizing cycle until said electric energy storage device is completely de-energized or until the need to supply electric energy to said electrical load device with electric energy temporarily stored by said capacitive device during each said de-energizing cycle ceases, whereby electric energy is safely, effectively, and efficiently supplied by said electric energy storage device to said electrical load device with said capacitive device acting during each said de-energizing cycle to prevent excessive electric current from flowing at any time.
3. A circuit for energizing an electric energy storage device with energy supplied by an electric power source and for de-energizing an electric energy storage device to supply electric energy to an electrical load device, comprising:
- (a) a first means for preventing electric current flow which can be opened and closed in electrical terms to prevent or allow respectively, electric energy flowing into, or out of, said electric energy storage device, and
 - (b) a capacitive device with a predetermined value of capacitance to temporarily store electrical energy being transferred to and from an electric energy storage device and acting to prevent excessive electrical current from flowing at any time, and
 - (c) a second means for preventing electric current flow which can be opened and closed in electrical terms to prevent or allow respectively, electrical current from flowing, and
 - (d) a first means for controlling said first means for preventing electric current flow which opens and closes in electrical terms said first means for preventing electric current flow, and
 - (e) a second means for controlling said second means for preventing electric current flow which opens and closes said second means for preventing electric current flow, whereby said electric energy storage device is safely, effectively, and efficiently energized and de-energized using a method of opening and closing in electrical terms said first means for preventing electric current flow and said second means for preventing electric current flow at appropriate times.
4. The circuit of claim 3 wherein said first means for preventing electric current flow

and said second means for preventing electric current flow are each comprised of a manually operated mechanical switch.

5. The circuit of claim 3 wherein said first means for preventing electric current flow and said second means for preventing electric current flow are each comprised of a mechanical switch activated by an electromagnet.
6. The circuit of claim 3 wherein said first means for preventing electric current flow and said second means for preventing electric current flow are each comprised of a single semiconductor device which can be electronically controlled.
7. The circuit of claim 3 wherein said first means for preventing electric current flow and said second means for preventing electric current flow are each comprised of a plurality of semiconductor devices which can be electronically controlled and arranged electrically together to increase the ability to withstand very high voltages before electrical breakdown and arcing occurs.
8. The circuit of claim 3 wherein said first means for preventing electric current flow and said second means for preventing electric current flow are each comprised of an electron tube.
9. The circuit of claim 3 wherein said electric energy storage device is a novel high voltage electric energy storage device with a high energy density and a high specific energy.